

WHAT IS CLAIMED IS:

See 1. A method for screening a piezoelectric transformer apparatus including an actuator and a generator, the method comprising the steps of:

beginning manufacturing of the piezoelectric transformer apparatus;

connecting a load impedance to said generator;

applying a stress signal to said actuator to vibrate the piezoelectric transformer apparatus, and

identifying whether the transformer apparatus has a defect.

2. The method according to Claim 1, further comprising the step of completing the manufacture of the piezoelectric transformer apparatus after the step of identifying whether the transformer apparatus has a defect.

3. The method according to Claim 1, wherein a vibration level of the piezoelectric transformer apparatus caused by the stress signal is within a range of a vibration level of the piezoelectric transformer apparatus in actual use to a vibration level of a fatigue limit of a reference piezoelectric transformer apparatus.

4. The method according to Claim 1, wherein the value of the load impedance is not less than about ten times an output impedance of the piezoelectric transformer apparatus.

5. The method according to Claim 1, wherein the value of the load impedance is not more than about one tenth of an output impedance of the piezoelectric transformer apparatus.

6. The method according to Claim 1, wherein the load impedance includes a resistance element.

7. The method according to Claim 1, wherein the stress signal is a sinusoidal continuous wave.

8. The method according to 1, wherein the stress signal is a sinusoidal burst wave.

9. The method according to Claim 8, wherein a duty ratio of the burst wave is not more than about 10%.

10. The method according to Claim 1, wherein the piezoelectric transformer apparatus is cooled.

11. The method according to Claim 1, wherein the piezoelectric transformer apparatus is a Rosen-type piezoelectric transformer apparatus.

12. The method according to Claim 1, wherein the piezoelectric transformer apparatus includes a single piezoelectric plate.

13. The method according to Claim 1, wherein the piezoelectric transformer apparatus includes multiple piezoelectric plates.

Sub 14. A method of manufacturing a piezoelectric transformer apparatus including an actuator and a generator, the method comprising the steps of:

beginning manufacturing of the piezoelectric transformer apparatus;

testing the piezoelectric transformer apparatus for latent defects; and

completing manufacturing of the piezoelectric transformer.

15. The method according to claim 14, wherein the step of testing includes the steps of connecting a load impedance to said generator and applying a stress signal to said actuator to vibrate the piezoelectric transformer apparatus.

16. The method according to claim 15, further comprising the step of identifying whether the piezoelectric transformer apparatus has (a latent defect) after said steps of connecting a load impedance to said generator and applying a stress signal to said actuator to vibrate the piezoelectric transformer apparatus.

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17. The method according to Claim 15, wherein a vibration level of the piezoelectric transformer apparatus caused by the stress signal is within a range of a vibration level of the piezoelectric transformer apparatus in actual use to a vibration level of a fatigue limit of a reference piezoelectric transformer apparatus.

18. The method according to Claim 15, wherein the value of the load impedance is not less than about ten times an output impedance of the piezoelectric transformer apparatus.

19. The method according to Claim 15, wherein the value of the load impedance is not more than about one tenth of an output impedance of the piezoelectric transformer apparatus.

20. The method according to Claim 15, wherein the load impedance includes a resistance element.

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